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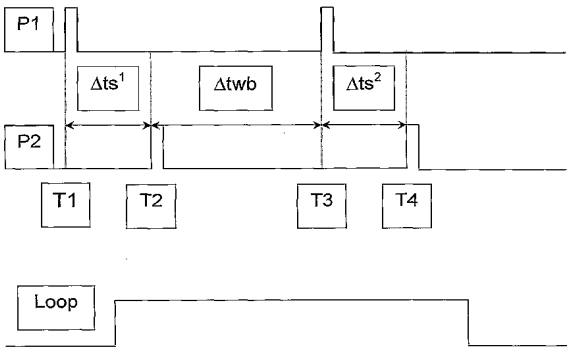
(54) Title: VEHICLE SPEED DETERMINATION SYSTEM AND METHOD



LEGEND

P1	Piezoelectric Sensor 1
P2	Piezoelectric Sensor 2
Loop	Inductive Loop
T1	Time when Front Axle triggers P1
T2	Time when Front Axle triggers P2
T3	Time when Rear Axle triggers P1
T3	Time when Rear Axle triggers P2
Δts^1	Time Interval used to measure the Speed of the Front Axle (T2-T1)
Δts^2	Time Interval used to measure the Speed of the Rear Axle (T4-T3)
Δtwb	Time Interval used to measure the Wheel Base (T3-T2)
cs^1	Count Speed 1 is the Number of Interval Counts between T2 and T1 (Δts^1*freq)
cs^2	Count Speed 2 is the Number of Intervals Counts between T4 and T3 (Δts^2*freq)
cswb	Count Speed Wheel Base is the Number of Interval Counts between T3 and T2 (Δtwb*freq)
freq	Reference Crystal Frequency
d	Distance separating P1 and P2

(57) Abstract: A method for verifying the speed of a vehicle having at least a front axle and a rear axle, using sensors separated by a distance. The presence of the vehicle is sensed and an image of the vehicle is recorded to enable the vehicle to be identified. The sensors are triggered to emit signals which are received by the system to enable the speed of the vehicle to be determined. The signals are also used to determine a wheel base measurement for the vehicle. The determined wheel base measurement is compared to an actual wheel base measurement of the vehicle being sensed and any discrepancy between them is taken to be indicative of potential errors in the speed of the vehicle determined by the method. In one embodiment, the a database is provided, the database containing data relating to various vehicle types associated with vehicle specifications including a validated wheel base measurement for each vehicle type.

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